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Analysis of optical light curves for the components of the gravitationally lensed quasar SBS 1520+530 based on observations with the 1.5-m RTT-150 telescope in 2001-2005

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Abstract

We present the R c-band light curves for components A and B of the gravitationally lensed quasar SBS 1520+530 obtained during 2001-2005 with the 1.5-m Russian-Turkish Telescope (RTT-150) at the TUBITAK National Observatory (Turkey). Based on an analysis of the data for the period 2001-2002, we have estimated the time delay of the brightness fluctuations between components A and B of the quasar to be 128 days. This time delay agrees with its previously published values for the periods 1999-2001 and 2003-2004. Using all of the published data on the brightnesses of components A and B of SBS 1520+530 for the 6-year period, we have found at least two microlensing events. One event has the pattern of a long-term linear trend; the duration of the other event is several hundred days. © Pleiades Publishing, Inc., 2006.

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Keywords

Active galactic nuclei, Microlensing, Photometry, Quasars and radio galaxies, Time delay